

DOCUMENT RESUME

ED 434 095

SP 038 781

TITLE Preparing Teachers To Use Contextual Teaching and Learning Strategies To Enhance Student Success in and beyond School. Conference Proceedings (Columbus, Ohio, May 12-13, 1998).

INSTITUTION Ohio State Univ., Columbus. Coll. of Education.; Bowling Green State Univ., OH. Coll. of Education.

SPONS AGENCY National School-to-Work Opportunities Office, Washington, DC.; Office of Vocational and Adult Education (ED), Washington, DC.

PUB DATE 1998-05-00

NOTE 25p.

PUB TYPE Collected Works - Proceedings (021)

EDRS PRICE MF01/PC01 Plus Postage.

DESCRIPTORS College School Cooperation; *Context Effect; Diversity (Faculty); Elementary Secondary Education; Faculty Development; Higher Education; Partnerships in Education; Preservice Teacher Education; School Community Relationship; Student Teachers; Teaching Methods

IDENTIFIERS *Contextual Learning; Contextualized Learning Environments

ABSTRACT

This publication presents proceedings from the 1998 Contextual Teaching and Learning Design Conference, which focused on developing a framework to study contextual teaching and learning strategies in teacher education. The conference provided participants with an opportunity to think, talk, and work together on that task. Participants included experts from 30 universities, authors of commissioned papers, teachers from local schools, representatives from educational and professional organizations, community partners, and U.S. Department of Education representatives. This publication summarizes events from each of the two days, focusing on five questions that were addressed: What would a program preparing teachers to employ contextual teaching and learning strategies look like? How can preservice programs utilize interaction between campus and K-12 schools to promote contextualized teaching and learning? How can preservice programs utilize the community to promote contextual teaching and learning? How can preservice programs utilize the workplace to promote contextual teaching and learning? and How can the various dimensions already discussed be utilized to promote diversity? Two appendixes list participants and paper topics and articles. (SM)

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Conference Proceedings

Design Conference

May 12-13, 1998
Adams Mark Hotel
Columbus, Ohio

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Project Abstract

The Ohio State University College of Education, in partnership with Bowling Green State University, is spearheading a national teacher education project to identify, study and disseminate the characteristics of preservice teacher education programs that prepare teachers to use contextual teaching and learning strategies to improve student achievement. Contextual teaching and learning strategies help students make the connection between knowledge and its applications to their lives as family members, citizens and workers. Contextual strategies focus on students as active learners, and provide a wide range of learning opportunities for them to use their academic skills to solve complex, real world problems. Teaching and learning in context emphasizes higher level thinking, knowledge transfer, collecting and analyzing data, functioning in teams and collaborative groups, and solving challenging problems.

While there is a substantial literature base describing the need to reform preservice teacher education programs, there are not clearly defined models showing how contextual teaching and learning concepts are incorporated into preservice teacher preparation programs. This contract focuses on the need to identify applications of recent findings about how individuals learn alone and in groups and in a variety of contexts. Additionally, it will teach how to close the gap between current modes of preparing teachers to teach for more traditional forms of academic learning and more participatory forms of learning grounded in theories of contextual teaching and learning.

Susan J. Sears and Johanna S. DeStefano, The Ohio State University, are Project Directors of this project titled "Preparing Students to Use Contextual Teaching and Learning Strategies to Enhance Student Success In and Beyond School." **Kenneth R. Howey** was the initial Project Director. The award, in the amount of \$895,547, supports an 18-month project to:

- commission papers on the key issues of contextual teaching and learning,
- conduct a design conference to develop a framework for describing and studying the characteristics of preservice programs that prepare teachers to use contextual teaching and learning strategies to improve student achievement,
- use the framework to select university/college teacher preparation programs for site visitations and case study development, and
- disseminate project outcomes nationally.

The authority for this contract is the School-To-Work Opportunities Act of 1994 (Public Law 103-239). This project is a joint initiative of the Office of Vocational and Adult Education and the National School-To-Work Office.

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A message from the co-principal investigators

Dear Conference Participants:

The Contextual Teaching and Learning Design Conference, which took place in Columbus, Ohio on May 12-13, 1998, focused on developing a framework to study contextual teaching and learning strategies in teacher education programs. The conference was designed to provide the participants an opportunity to think, talk, and work together to carry out that task.

"Experts" from 30 different universities were invited, along with authors of seven commissioned papers, teachers from local schools, representatives from educational and professional organizations, community partners and U.S. Department of Education representatives. These proceedings are designed to serve as a record of the events that occurred during the conference. We would like to thank the members of our core team, our advisory team and our project team for their continued support throughout the project. And all of you who attended have our sincere appreciation for a job well done! We hope the products developed from this project will serve you as you prepare tomorrow's teachers.

Sincerely,

Ken Howey Susan Sears Johanna DeStefano Robert Berns

A message from Patricia McNeil

Dear Colleague:

The focus on contextual teaching and learning strategies grew out of current research, theory and best practice showing that learning does not typically develop independently of the context in which it is presented. The educators at this conference engaged in a facilitated discussion to define and clarify the concept of contextual teaching and learning. We were excited about the level of interest, conversation, and subsequent recommendations from the participants. These recommendations helped to refine the project tasks and support the overall success of this effort.

I would like to thank the Ohio State University and Bowling Green State University for their work in coordinating and conducting this conference, and the conference participants who so willingly shared their expertise to support the improvement of teacher education programs.

It is our hope that this document will be used to advance the dialogue on preparing quality teachers and consequently improving the achievement of all students. We look forward to making available to you early next Spring the completed case studies conducted at five universities modeling and preparing teachers to use contextual teaching and learning strategies.

Sincerely,

Patricia W. McNeil

Contract Officer for the Project: Peggi Zelinko, Education Specialist, O.V.A.E.

More about the Design Conference

The specific objectives of the conference were:

- *to expand and clarify what contextual teaching and learning is;*
- *to enable participating experts to experience and learn from contextual teaching and learning activities; and*
- *to develop a framework for describing and studying the characteristics of preservice programs that prepare teachers to use contextual teaching and learning strategies to improve student achievement.*



Conference at a Glance

Tuesday, May 12, 1998

- 7:30 a.m. Continental breakfast **Pre-conference Area**
- 8:30 a.m. Welcome **Auditorium**
Nancy Zimpher—College of Education, The Ohio State University
Ronald Castaldi—U.S. Department of Education
Gail Schwartz—National School-to-Work Office
- 8:45 a.m. How the conference is organized to meet the challenge
- 9:00 a.m. Overview of the Challenge *Kenneth Howey*
- 9:30 a.m. Building from the papers toward the Framework:
 small group activity **Rooms 33 and 34**
- Break 15 minutes – time at group's option
- 11:30 am Presentation of pre-organizer and site options for
 the afternoon; participants prioritize choices **Room 30**
- 12:00 p.m. Lunch
- 1:00 p.m. Small groups are transported to a contextual learning site to
 examine, explore, interact, and dialogue about specific contextu-
 al teaching and learning attributes as exemplified in preservice
 programs.
- 4:00 p.m. Groups reflect and debrief about implications for what they will
 want to include in the preservice teacher education contextual
 teaching and learning Framework
- 4:30 p.m. Transport to hotel
- 5:40 p.m. Meet in hotel lobby to walk to Center of science and Industry
- 6:00 p.m. Reception
- 6:45 p.m. Exploration of favorite exhibits one-on-one with K-12 students
- 7:30 p.m. Dinner
- 8:30 p.m. Dialogue between two experts in experiential learning
Douglas Lantry and Leonard Sparks
- 9:20 p.m. (Optional) Planetarium mini-show or exploration
 (Walk back to Hotel)

Wednesday, May 13, 1998

- 7:30 a.m. Full breakfast served **Room 30**
- 8:30 a.m. Explanation of day's activities
- 8:45 a.m. Topic One: Curricular & Programmatic Design *Nancy Zimpher*
- 9:15 a.m. Small group work on Topic One
- 10:00 a.m. Break
- 10:15 a.m. Topic Two: Interaction between the Campus and K-12 Schools
Beth Carnate
- 10:40 a.m. Small group work on Topic Two
- 11:10 a.m. Topic Three: School-Community Connectivity *Michael Casto*
- 11:30 a.m. Small group work on Topic Three
- Noon Lunch
- 1:00 p.m. Topic Four: School-Workplace Connectivity
Robert Berns and Sandra Pritz
- 1:30 p.m. Small group work on Topic Four
- 1:50 p.m. Topic Five: Diversity *Mara Sapon-Shevin*
- 2:20 p.m. Small group work on Topic Five
- 2:40 p.m. Break
- 2:55 p.m. Topic Six: Faculty Development *Victor Rentel*
- 3:30 p.m. Next steps: the Framework, the commissioned papers,
 and the postconference
- 4:00 p.m. What sites best exemplify the Framework?
- 4:20 p.m. Questions and Answers
- 4:45 p.m. Conference evaluation and closing remarks
- 5:00 p.m. Adjourn

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DAY ONE: An Overview and Challenge

As our group of experts gathered together in the auditorium of the Adams Mark Hotel, we were welcomed by Nancy Zimpher, dean of The Ohio State University College of Education and a member of the project Advisory Board. Ron Castaldi from the U.S. Department of Education and Gail Schwartz from the School to Work Office added their welcoming remarks plus best wishes for a successful conference.

Ken Howey, the project director, then provided an overview of the conference and the challenge before the group. He began with a "tentative and initial definition of contextual teaching and learning."

Teaching that enables learning where pupils employ their academic understandings and abilities in a variety of out-of-school contexts to solve complex, real world structures. Activities in which teachers use contextual teaching and learning help students make connections with their roles and responsibilities as family members, citizens, students, and workers. Learning in these activities is commonly characterized as active, self-regulated, problem oriented and responsive to a host of diverse learning needs and interests. Assessment is ongoing and blended with this teaching and learning; it is reciprocal in nature with evaluation of both activities. CT&L emphasizes higher level thinking, knowledge transfer, collecting, analyzing and synthesizing information and data from multiple sources and viewpoints.

This tentative definition was derived from a careful review of the literature, a set of commissioned papers (described in the pre-conference section), and dialogue among the members of the core team, the advisory team and the project team. With the definition as the foundation, the participants were challenged to experience contextual teaching and learning and to use that experience to:

- expand and clarify the definition of contextual teaching and learning;
- develop a framework for describing the characteristics of preservice programs that utilize contextual teaching and learning strategies to prepare future teachers.

Ken went on to describe the kind of teacher education program that might result from using CT&L strategies. Characteristics of such a program would include:

- major faculty development for both teacher education faculty and P-12 clinical faculty;
- continuation of the assistance and feedback given to preservice teachers into the first years of teaching;

DAY ONE: An Overview and Challenge, continued

- alignment of preservice teacher education reform with P-12 reform (simultaneous renewal);
- strong partnerships between colleges of education and partner schools;
- new leadership roles for veteran teachers that integrate their learning in a reciprocal fashion with preservice and beginning teacher learning;
- new partnership arrangements that include agents and agencies in the home, community, and workplace;
- agreement on a technical knowledge base, grounded in research and practice to develop an integrating core;
- resolution of the procedural and psychometric problems attached to authentic assessment;
- increased use of modern communications technology to both bridge and expand a variety of contexts.

Building from the commissioned papers and small group discussion toward the framework

The remainder of the first day was devoted to expanding and clarifying the meaning of Contextual Teaching and Learning, first, in small group discussions and, second, in actual experiences designed to allow participants to immerse themselves in a contextual teaching and learning activities. Prior to the Design Conference, participants (see Appendix A for a listing) had been asked to read six papers they received by mail. The CT&L Project had commissioned these papers (plus a seventh one) on key elements of contextual teaching and learning, e.g. problem-based learning. Paper topics and authors are listed in Appendix B. By having an opportunity to read these papers prior to the Design Conference, participants had a general understanding of contextual teaching and learning strategies and could reference specific authors or ideas in their group discussions. The authors of the papers also were participants at the Design Conference and were available to clarify concepts and or listen to suggestions to improve their papers.

Questions and typical responses generated by small groups

Using the commissioned papers plus their own personal knowledge and experiences, the participating experts divided into small groups and addressed several questions resulting in thought-provoking responses recorded on the following page.

What should be highlighted as attributes of contextual teaching and learning?

- Linking academic learning skills and hands-on activities.
- Collaborating with community members/agencies
- Applied to real world problems
- Action Research - meaningful to students engaged in the task
- School becomes more of a community center
- Contextual teaching reinforces contextual learning
- Teachers become learning leaders
- Need clearer ties to the curriculum
- Need partnerships with business
- Focus on problem based learning
- Identify assets of the community
- Diversity as an attribute of contextual teaching and learning
- Experiential and active
- Community-based
- Dramatic paradigm shift
- Help kids make sense of messy reality
- Kids learn from the context
- Meaning is contextualized
- Promotes how to learn - metacognition
- Integration of instruction and assessment
- Creates people who can analyze and be critical of societal conditions - sexism, racism, etc.
- PDS: Partner schools as a contextual model
- Takes cultures into account
- Student centered
- What is the relationship to situated learning?
- Value should be attached to work - real work experiences needed
- Can we better teach basics in context?

Why is contextual teaching and learning important?

- Learned abstractions remain abstractions
- The more integrated information is, the more useful
- Can reach more learners and learning styles
- Social constructivism overlaps with contextual teaching and learning
- Real world needs to be reflected - must be able to work collaboratively
- Contextual teaching and learning is deeper and richer but if we want to transmit lots of facts, may need a more traditional method
- Can change the dynamics of learning
- Appreciation of the knowledge; finding where learning fits, e.g. workplace
- Enhances student interest
- Adds to critical thinking skill
- Gives students skills to judge and evaluate the quality of information

Contextual Teaching and Learning in Practice

Experiences designed to allow participants to immerse themselves in a contextual teaching and learning activities.

Each conferee was given a choice of eight site experiences that had been developed to demonstrate and model contextual and learning to reinforce its meaning authentically and to elicit conferees' ideas of implications for preservice teacher education. Conferees spent the afternoon of Day One experiencing one of the following eight contextual learning experiences.

Descriptions of the contextual teaching and learning experiences:

1. Context Across Distance:

Two public television stations linked a problem-based learning (PBL) specialist and conferees with teachers at two distance sites in Ohio to dialogue about their PBL experiences, technology, and distance learning as a tool in preservice education. Conferees also had the opportunity to interact with the teachers about the uses of problem-based learning in their classrooms.



2. Teaching About Cognition With Chimpanzees

At OSU's world-class Chimpanzee Center, the director, Dr. Sally Boysen, explored with conferees how preservice educators can link to and leverage powerful learning experiences in the arts and sciences. She showed how preservice faculty can identify the assets of a rich, authentic learning environment and develop strategies for learning from those assets.



3. Learning, Working and Living In A Civil War Context

Conferees visited the Ohio Historical Society, and took part in a re-enactment of events on the Civil War underground railroad. Conferees, with the assistance of a Civil War guide, retraced the path of a young, female slave who was escaping to



freedom. Talking to workers along the path who were committed to helping others gain freedom created an historical context for discussion of freedom and what it means then and now.



4. Lifelong Learning In A High Tech Context

Sensotec, Inc., creator of a new pressure-sensing device every 54 minutes, was the site of conferees' inquiry into employees' lifelong learning strategies which, at this site, are driven by teamwork and

Contextual Teaching and Learning in Practice, continued

qualify control demands. The Vice President for Quality discussed the ways in which employees are developing skills to creatively manage the unexpected and unpredictable in response to customer demand and the ways in which data are gathered and used in tandem with "experienced knowledge." Conferees, with safety goggles and earplugs in place, toured the plant and talked with numerous workers about various aspects of their jobs.



5. Assets Of A Campus Community Context

Conferees took a brief bus tour of a community adjacent to The Ohio State University campus which has a high rate of unemployment and where 89% of the children are on free or reduced price lunches. Conferees were given community maps and encouraged to walk in pairs toward one of eight community agencies. Along the way, they asked citizens they met what was good about their community. Later, conferees shared

their experiences to develop a map of community assets and discussed implications for contextual teaching and learning in preservice education.

6. Art As A Stimulus To Metacognitive Reflection

At the exhibit of artist Gabriel Muntz's German expressionist work, an OSU art historian helped pairs of conferees examine their metacognitive processes as they problem-solved to make meaning of works of art. This interdisciplinary approach integrating visual and language arts has been very successful with hundreds of Columbus Public students during the past ten years. Conferees discussed implications of the experience for preservice teacher education programs.



7. Design and Technology Education

Conferees worked in groups to plan, design, test, and record the processes and product of a mathematical/scientific creation at the OSU Design and Technology Educational Center as they identified integrative learning and performance assessment applications for preservice education.

8. Non-Textual learning Resources

Conferees explored the possibilities and pitfalls of using material culture and living history as learning tools to teach content by visiting the Ohio Statehouse, an environment where many objects are found "in context." The conferees explored how objects in this historical environment can engage students' senses in more exciting ways than "lecturing" or other "tell" techniques. Again, implications for preservice teacher education were discussed.



Exploring learning at the Center of Science and Industry (COSI)

The evening of Day One provided conferees the opportunity to explore how students learn in a rich contextual learning environment. Before dinner (at COSI), students were matched with two and three-person conferee teams. As the students conducted mini-tours of their own favorite exhibits, conferees asked questions designed to elicit students' perspectives about what they like to learn and how they like to learn it. Thus, the following questions set the stage for dialogue between the student guides and conferees:



- *What is an example of what you learned at COSI?*
- *How did you learn it?*
- *How do you know when you've learned something?*
- *How do you like to learn best?*
- *How do you think you learn best?*

Conferees reported that lively discussions took place as they attempted to see learning through the eyes of their student guides. Typical conferee comments about the experience include:

"I couldn't believe the students' grasp of complex subjects."

"My student guide was only ten but was a seasoned historian as he took me through the 'Street of Yesteryear.'"



"Beth reported she was only an average student in school but talked about her favorite exhibit, the dinosaurs, like an expert."

"My student guide liked to learn at COSI because she had the freedom to choose what she would learn."



Day Two: Developing A Framework

Developing A Framework To Describe and Advance the Study, in Preservice Teacher Education Programs, of Contextual Teaching and Learning Strategies to Improve Student Achievement

The second day of the conference was devoted to developing a framework to describe and advance the study of contextual teaching and learning in preservice teacher education programs. The day was structured to elicit the conferees' responses and comments to five organizing questions:

1. What would a program preparing teachers to employ contextual teaching and learning strategies look like?
2. How can preservice teacher education programs utilize interaction between the campus and K-12 schools to promote contextual teaching and learning?
3. How can preservice teacher education programs utilize the community to promote contextual teaching and learning?
4. How can preservice teacher education programs utilize the workplace to promote contextual teaching and learning?
5. How can the various dimensions already discussed (above) be utilized to promote diversity?

Brief presentations on relevant topics preceded small group discussions of each of the five questions. These small groups were facilitated by Project Team members from The Ohio State University or Bowling Green State University. Main points made in the brief presentations are featured below, followed by the responses and comments from the conferees' discussion groups with a brief summary.

Presenter's Main Points

Nancy Zimpher, Dean of the College of Education, suggested that any coherent and potent program of teacher preparation has these characteristics:

- ▶ is undergirded and guided by consensus and clear conceptions of teaching, learning, learning to teach, and the appropriate mission of schools;
- ▶ is articulated with Arts, Sciences, Humanities and clinical assignments in schools;
- ▶ has specific milestone points, and shared ordeal experiences;
- ▶ contains goal-specific short term learning groups;
- ▶ incorporates faculty teams to inter-relate courses and experiences; and
- ▶ embraces distinctive program components.

Question #1: What would a program preparing teachers to employ contextual teaching and learning strategies look like?

Day Two: Developing A Framework, continued

Comments From Conferees Small Group Discussions

- "Goals and specific outcomes must include contextual teaching and learning"
- "Time and resources are needed to accomplish this"
- "Cohorts are effective-group research projects, service learning"
- "Needs to be a total design; K-12 needs to work together"
- "Teaming by faculty"
- "Faculty need to model contextual teaching and learning in the program"
- "Need a core of consistent people (not changing chairs and deans);"
- "Need to find teachers willing to let preservice teachers take the lead"
- "There is not just one model of how to do things--must be workable for each institution but, guiding principles are needed"
- "Program must be linked to standards like NCATE or state"
- "Professional developments schools can be a model for this"
- "Field experiences should be diverse—urban, suburban, rural"
- "Provide programs for community needs"
- "Assessment in this type of program is more complex needing multiple methods/modes"
- "Need to utilize technology"
- "NCTM Standards are problem-based and try to make connections between school and real life"
- "Must make connections to individual's life experiences"
- "How do we move from subject matter specialists to willing integrative teachers?"
- "Need context skills-learning how to learn about kids and communities"
- "Curriculum should also incorporate on-campus experiences in other areas"
- "Such a program would need to bring teacher educators and teacher education students to community learning resources such as museums, military bases, businesses, government agencies, and historical societies"
- "Preservice teachers need experience in multiple contexts"

Summary: The curriculum in a program preparing teachers to employ CT&L should be grounded in standards that reflect contextual teaching and learning. The goals and the outcomes of the program should be reflective of CT&L principles. Instruction in the program should take place in multiple contexts, including PDS schools in diverse settings, and should model CT&L strategies. multiple methods of assessment should be used. Obstacles to employing CT&L strategies: Time, resources, and consistency of personnel.

Presenter's Main Points

Beth Carnate, teacher at Independence High School in Columbus, Ohio, described the partnership her high school has had with Ohio State's College of Education for the last six years. IHS has served as a professional development school for interns in math, science, English, social studies, and Family and Consumer Science. As a part of this partnership, college faculty and Independence teachers co-develop and offer credit courses for teachers at the school, focusing on topics such as Integrating Curriculum, Reflective Teaching, Teacher As Researcher, and Examining Student Work."

Question #2: How can preservice teacher education programs utilize interaction between the campus and K-12 schools to promote contextual teaching and learning?

Comments From Conferees Small Group Discussion

"The school curriculum needs to reflect the needs of students and the university needs to be aware of that curriculum"

"Partnerships with schools are vital if they are based on shared values"

"Developing such relationships are contextual-examples: performance assessments, collaboration, and inquiry"

"Change faculty evaluation procedures so field-based experiences are rewarded"

"Use existing resources to grow our own field sites to emphasize contextual teaching and learning:

"Professors have to understand the context of today's school improvement/school restructuring environment"

"It will take time to establish these connections with schools"

"True partnerships create environments for change"

Summary: Partnerships between P-12 schools and universities are vital to promote CT&L. To be effective, the reward system for university faculty must be structured to encourage work in schools. There is a need for mutual understanding about change in schools. Schools, too must change for teachers to use CT&L strategies. These changes are most likely to occur in schools that are part of a partnership. Obstacles to partnership: University reward systems, time.

Day Two: Developing A Framework, continued

Question #3: How can preservice teacher education programs utilize the community to promote contextual teaching and learning?

Presenter's Main Points

Mike Casto, Director of The Interprofessional Commission on Education, located at The Ohio State University, reported on The Campus Collaborative, a university-wide effort to work with citizens in communities surrounding Ohio State. Mike described how, through a partnership with the city of Columbus, faculty and students at Ohio State have collaborated with local residents to improve the physical appearance of the neighborhoods, improve access to health care and social service agencies, to enhance economic and employment opportunities for residents, and to increase services to schools.

Comments From Conferees Small Group Discussion

- "Service learning is a good way to utilize the community"
- "There should be a reciprocal benefit for the community"
- "We need to find out what is really available"
- "Revisit the Mott Plan where the school is the community"
- "Make home visits"
- "Link community sites to content students must learn, e.g. public utilities"
- "Preservice teachers need to understand the community cultures/mores/groups"
- "Teacher educators need to ask themselves: What is the role of the teacher in the community?"
- "Teacher educators should have to understand the community in which they work"
- "Use pre-field experience opportunities to have students do a study of the community so that they can teach contextually and so they have the tools to study the community"

Summary: An understanding of community is important for both teachers and teacher educators in promoting CT&L. Community mapping, service learning, and home visits can all be used to enhance knowledge of the community.

Question #4: How can preservice teacher education programs utilize the workplace to promote contextual teaching and learning?

Presenter's Main Points

Robert Berns and Sandra Pritz teamed to address the "what," "why," and "how and when" of work-based learning:

What: Work-based learning is knowledge gained in the context of a career/work related environment, also through simulated workplace environments."

Why: All those preparing to teach will spend their own career helping learners prepare for a satisfying and productive work life, among other objectives. Work cuts across all cultures and disciplines.

Day Two: Developing A Framework, continued

How and When: Work-based learning includes learners engaged in workplace site visits, job shadowing, and internships or externships for those already in a career and seeking to broaden their perspectives. These experience should be geared to the appropriate developmental stages of the learners.

Bob and Sandy briefly described a statewide school-to-work project in Ohio in which teacher educators are attempting to infuse school-to-work concepts like work-based learning into preservice teacher education programs.

Comments From Conferees Small Group Discussion

"Faculty need experiences in the workplace"

"What is the purpose of schools—for citizens/democracy/transformation for the development of workers?"

"Bring employers in to talk to students"

"Foster teaching academies to help high school students decide if they want to be teachers"

"Faculty should engage in externships"

"Work environments provide context for content"

"Connections are motivational—helps students see why we do what we do"

"Students need diverse work experiences so they can focus on careers"

"Incorporate preservice experience with workplace experiences.

"Students should have a variety of placements as context for observations: businesses and cultural ones as well"

"Teachers need to know SCANS"

"Preservice students should know about organizations such as Junior Achievement

"Vocational teachers have work experience but academic high school teachers have no experience as practitioners"

"Must be able to show that this approach improves student learning processes"

"How do we deal with contextual teaching and learning and proficiency tests?"

Summary: The workplace can be used to promote contextual teaching and learning in a number of ways. Both teacher educators and preservice teachers should have workplace experiences. the world of work motivates students by providing context for content and helping students understand the world of work. In addition to externships, speakers from the world of work can help students understand the connection between content and context.

Question #5: How can the various dimensions already discussed (above) be utilized to promote diversity?

Presenter's Main Points

Mara Sapon-Shevin, an expert in diversity issues in teacher education, challenged the conferees with these points:

- ▶ We need to establish different norms of what it means to be a professional:
 - √ working with para-professionals
 - √ working with parents
 - √ working in the community
- ▶ We need to provide opportunities for our students to examine their own histories, beliefs, and assumptions about diversity.
- ▶ We need to prepare our students with collaborative skills—they will not be working in isolation.
- ▶ We need to think differently about how we assess students and how we teach our students to assess children in school.
- ▶ We need to teach our students about systems' change and the politics of education.

Comments From Conferees Small Group Discussion

"Preservice teachers need experiences with the types of student that will end up in their classrooms"

"We need to do a better job of recruiting minority teachers"

"How do you develop a commitment to diversity"

"We must be conscious of where we place students for student teaching"

"Where do we instill: All students can learn"

"Using the classroom as a context to study diversity. Who are the students?"

"We need to examine our own assumptions about others"

"Preservice teachers need facilitated experiences with diverse students and communities and follow-up of those experiences (debrief) are needed too"

"Teachers need to know how to create change"

"Literature is a vehicle for discussing diversity"

Summary: Preservice teachers need to have experience in a variety of diverse settings. In addition, we need to recruit more people of color into the teaching profession. Students must develop a commitment to diversity and to the belief that all children can learn.

Faculty Development

Presenter's Main Points

In the late afternoon of Day Two, the small groups reassembled into one group to hear Vic Rental's presentation on Faculty Development. Faculty development was chosen as a topic to be addressed because if change is to occur in preservice teacher education, then professional development opportunities must be available to help faculty change and universities must be willing to invest in their faculty to facilitate the change needed to restructure teacher education programs. Vic reported the belief that highest university priority on investment in improving faculty research skills is being challenged by the realization on the part of university administrators that university teaching is also important. He reviewed the strong research literature that argues that high quality teaching is the largest contributor to student success in mathematics and other critical skill areas. Vic cited recommendations from both the National Research Council and the Carnegie Fund for the Improvement of Teaching suggesting that universities should spend more time on undergraduate teaching. Common themes and outcomes such as the positive impact of curriculum development on faculty teaching skills and the constructive influence of professional development schools on preservice teachers' skills were presented.

Next Steps and Evaluation

Ken Howey described "next steps" in the project. He explained that comments and suggestions from the small group discussions would be used to create a framework to describe and further study the characteristics of contextual teaching and learning in teacher education programs. He reminded conferees that, as part of the overall project, the Core Team would be identifying and developing case studies on four sites, yet to be selected, that claim to be implementing contextual teaching and learning in their preservice teacher education programs. To assist the Core Team, Ken asked the conferees to recommend teacher education programs that, in their opinion, exemplify some of the best practices of contextual teaching and learning. Conferees were instructed to make their recommendations on their evaluation forms or by corresponding with him by mail.

Evaluations of the conference were very positive. Representative comments appear on the last page of the proceedings.

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Evaluation comments

What have the design conference participants achieved together?

I have a new understanding that I will carry back to my own college of education and I think this conference will influence how I teach. I believe this will be true for others as well.

Kudos to you all for pulling it off. I recognized the tremendous organization that went into arrangements; it was one of the more complex meetings logistically I've ever attended! And you all handled it so well!

Excellent dialogues amongst teacher educators and researchers from multiple fields of education, as well as multiple levels.

I am so pleased you invited me...I have shared my experience like an evangelist with whomever I've seen since...You were able to walk the talk and model what we want. It was a memorable conference for all who participated...I commend you for identifying, attracting, and recognizing leading practitioners in the field.

The authentic learning activities across contexts-my selection was the chimpanzee center-was great! I found it interesting to think about the framework of teacher education within this very different environment.

I felt the choice of participants for this project is a strength-interesting diversity here.

The dialogue on complex issues. Site visitation was outstanding. COSI was very engaging, too.

Opportunity of small groups to generate ideas connected to themes of papers, to Ken Howey's talk and to the participants' backgrounds and interests.

Every aspect seemed to link with every other aspect-mutually reinforcing.

I loved the evening at COSI. Again, the chance to explore and talk with colleagues was rich.

I don't believe anything was weak, unless you would count being too crowded around the table and small room for the morning discussion, not a big problem.

Discussing ways to redesign teacher education programs.

Afternoon field trip was absolutely wonderful! Thank you for the opportunity!

Appendix A: Conference Participants

Participant	Institution	Participant	Institution
Jeffrey Anderson	Seattle University	Douglas Lantry	Ohio Statehouse Education and Visitors Center
Sharon Antle	Ohio Historical Society	Linda Levstik	University of Kentucky
Rosalinda Barrera	New Mexico State University	Barbara Lieb	US Department of Education
John Borkowski	University of Notre Dame	Andrew Liou	Cleveland State University
Kathryn Borman	University of South Florida	Richard Lynch	University of Georgia
Sally Boysen	The Ohio State University	John Mascazine	The Ohio State University
Jeff Byars	The Ohio State University	Genie Maxwell	Hilliard Darby High School
Beth Carnate	Independence High School	Zena Moore	University of Texas at Austin
Martha Carr	University of Georgia	Delia Neuman	University of Maryland
Ronald Castaldi	US Department of Education	Angela O'Donnell	Rutgers University
Michael Casto	Interprofessional Commission of Ohio	Christine Overtoom	The Ohio State University
Carol Conroy	Cornell University	Thomas Owens	Northwest Regional Educational Lab
George Copa	University of Minnesota	Elvina Palma	Kenwood Elementary School
Kathleen deMarrais	Northern Arizona University	Scott Paris	University of Michigan
Mary Diez	Alverno College	Allen Phelps	University of Wisconsin at Madison
Alan Dittmer	University of Louisville	Jean Pierce	Northern Illinois University
Margaret Edwards	Association for Supervision and Curriculum Development	Lee Pogonowski	Columbia University Teachers College
Nadine Enoch	The Ohio State University	Ralph Putnam	Michigan State University
Alan Farstrup	International Reading Association	Robert Radway	Ohio School-To-Work
Elizabeth Fennema	Wisconsin Center for Education Research (retired)	Steve Rakow	University of Houston-Clear Lake
Todd Fennimore	The Ohio State University	Victor Rentel	The Ohio State University
Michele Foster	Claremont Graduate School	Greta Robertson	Independence High School
Frank Gallagher	Cable in the Classroom	Mara Sapon-Shevin	Syracuse University
Tamara Garcia-Barbosa	The Ohio State University/ Columbus Zoo	Janet Scaglione	University of South Florida
Carole Genshaft	Columbus Museum of Art	Del Schalock	Western Oregon State College
Sandra E. Gibbs	National Council of Teachers of English	Gail Schwartz	National School-To-Work Office
George Graham	Virginia Polytechnic Institute	Jon Snyder	University of California-Santa Barbara
Edi Guyton	Georgia State University	George Spicely	US Department of Education
Dorothy Harnish	University of Georgia	Wanda Stitt-Gohdes	University of Georgia
Nancy Hartley	Colorado State University	Susan Streitenberger	Ohio School-To-Work Office
Edythe Johnson Holubec	Cooperative Learning	Elizabeth Sturtevant	George Mason University
William Hunt	National Council of Teachers of Mathematics	Ruth Thomas	University of Minnesota
Ivonne Jaime	US Department of Education	Mike Thomas	The Ohio State University
Mary Anne Kafer	Ohio Cable Foundation	Doreen Uhas-Sauer	Fort Hayes Metropolitan Education Center
Lizbeth Kelly	Westerville Heritage Middle School	Rahima Wade	University of Iowa
Joanna Kister	Ohio Department of Education	Lynda West	George Washington University
Dawn Krusemark	American Federation of Teachers	Bonnie White	Auburn University
Richard Kunkel	Auburn University	Lauren Young	Michigan State University
Georgea Sparks-Langer	Eastern Michigan University	Peggi Zelinko	US Department of Education
		Karen Zuga	The Ohio State University

Appendix B: Authors & commissioned papers

Key attributes of Contextual Teaching and Learning were selected by the Advisory and Core Teams, working together with the results of a literature search. The goal was to identify salient characteristics rather than a comprehensively inclusive list. Scholars known to be capable of conveying the substantive information on the topic with excellence were asked to author the papers, which have subsequently been reviewed by a large number of the design conference participants before final revisions. The set of commissioned papers is being co-published by the ERICS on Adult, Career, and Vocational Education and on Teacher Education.

The Role of Context in Teacher Learning and Teacher Education

Hilda Borko and Ralph T. Putnam

Problem Representation and Integrative Strategies to Promote Problem-Based Teaching and Learning

Jean W. Pierce and Beau Fly Jones

Community Service Learning: Collaborating with the Community as a Context for Authentic Learning

Rahima C. Wade

Preparing Preservice Teacher Education Students to Use Work-Based Strategies to Improve Instruction

Richard L. Lynch and Dorothy Harnish

Culturally Relevant Pedagogy in Contextual Teaching and Learning

Lauren Jones Young

Self-Regulation, Teacher Preparation, and Student Success

Scott G. Paris and Peter Winograd

Authentic Assessment: Its Role in Contextual Teaching and Learning

Linda Darling-Hammond and Jon Snyder

An Annotated Bibliography of Writings Central to Contextual Teaching and Learning

Core Team Members

Team Member	Institution
Ken Howey	The Ohio State University
Susan Sears	The Ohio State University
Johanna DeStefano	The Ohio State University
Robert Berns	Bowling Green State University
Sandra Pritz	The Ohio State University

Advisory Team Members

Team Member	Institution
Gene Bottoms	SREB
Robert Dubill	USA Today
Beau Fly Jones	The Ohio State University
Irene Lynn	U.S. School-to-Work Office
Patricia McNeil	U.S. Department of Education
Richard Stoff	Ohio Business Roundtable
Nancy Zimpher	The Ohio State University

Project Team Members

Team Member	Institution
James Bishop	The Ohio State University
Leigh Chiarelott	Bowling Green State University
Dean Cristol	Bowling Green State University
Pat Erickson	Bowling Green State University
Cindy Gillespie	Bowling Green State University
Darcy Haag Granello	The Ohio State University
Rosalind Hammond	Bowling Green State University
Larry Hatch	Bowling Green State University
Susan Imel	The Ohio State University
Abbejean Kehler	The Ohio State University
Emmalou Norland	The Ohio State University
Marcia Rybczynski	Bowling Green State University
Sandra Stroot	The Ohio State University
Barbara Thompson	The Ohio State University
Marjorie Ward	The Ohio State University
Kathy Siebenaler Wilson	Bowling Green State University

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